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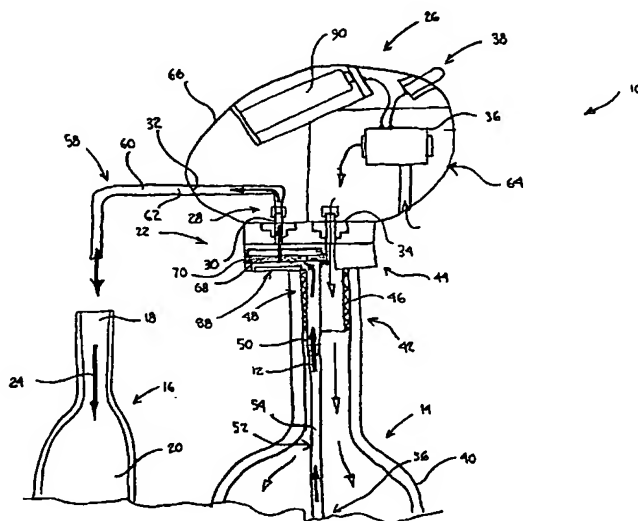
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[Continued on next page]

(54) Title: METHOD, SYSTEM AND APPARATUS FOR REMOVING IMPURITIES FROM WINE



(57) Abstract: An impurity removal system (10) for purifying wine (12) removable from a wine source (14). The system (10) includes a filtered wine container (16) defined by a collection portion (20) and having an opening (18) for introducing the wine (12) to the collection portion filtration device (22) which is in operable communication between the wine source (14) and the container (16), such that at least a portion of the wine (12) introduced from the wine source (14) is in fluid communication with the filtration device (22) prior to collection in the collection portion (20) of the filtered wine container (16). In operation, the wine (12) is removed from the wine source (14), introduced to the system (10), passed through the filtration device (22) and filtered wine (24) flows into the collection portion (20) of the filtered wine container (16). Vacuum-based and pressure-based filtration systems are also disclosed, as well as a method of removing impurities from wine.

WO 2004/099360 A3



SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Declarations under Rule 4.17:**

- *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,*

*IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)*

- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii)) for all designations*

**Published:**

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*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/13666

## A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C12G 1/04, 1/10; B67D 5/00; C02F 9/00

US CL : 210/258,321.84,321.75,406,416.1,435,473,474,496,649,694,502.1; 222/319,372,399; 426/592

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 210/258,321.84,321.75,406,416.1,435,473,474,496,649,694,502.1; 222/319,372,399; 426/592

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	US 4,477,347 A (SYLVA) 16 October 1984 (16.10.1984), abstract, figures, col 3 lines 11-40, col 5 lines 39-54.	1- 3,8,9,11,12,17,19,24,25,27-29,31-35, and 48-53 ----- 4-7,10,13-16,18,20-23,26,30,36-39,54
X --- Y	US 4,419,235 A (SWAY) 06 December 1983 (06.12.1983), entire document	1,26-33,48-51 ----- 2-25,34-39,52-54
X --- Y	US 6,319,414 B1 (WISEBURGH et al) 20 November 2001 (20.11.2001), entire document	1-3,6,8-23, 25, 27-33, 35 ----- 4,5,7,24,26,34,36-39

☒ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

### \* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T"

later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X"

document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y"

document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&"

document member of the same patent family

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For

# INTERNATIONAL SEARCH REPORT

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## C. (Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	US 6,458,278 B1 (LEONCAVALLO et al) 01 October 2002 (01.10.2002) abstract, figures, col 2 line 5 - col 3 line 52	1,28,29,30,36-39, 48,53,54 ----- 2-27, 31-35, 49-52
Y	US 5,071,664 A (BROWN) 10 December 1991 (10.12.1991) abstract	1-39, 48-54
Y	US 4,997,111 A (LOWERS) 05 March 1991 (05.03.1991) entire document	1-39, 48-54
Y	US 4,624,391 A (SHANNON) 25 November 1986 (25.11.1986) entire document	1-39, 48-54
Y	US 4,834,998 A (SHRIKHANDE) 30 May 1989 (30.05.1989) entire document	1-39,48-54

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/13666

## Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:  
Please See Continuation Sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.: 1-39 and 48-54

Remark on Protest

☐

The additional search fees were accompanied by the applicant's protest.

☐

No protest accompanied the payment of additional search fees.

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US04/13666

## BOX III. OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1. In order for all inventions to be examined, the appropriate additional examination fees must be paid.

Group I, claim(s) 1-39 and 48-54, drawn to apparatus for removing impurities.

Group II, claim(s) 40-47, drawn to method of removing impurities from wine.

The inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons:

The special technical feature of claim 1, impurity removal system, which is shown by the prior art US 4,477,347 A (SYLVA), an X reference, to lack novelty or inventive step and thus does not define a contribution over the prior art.